

A special fishing method for *Mystus (Osteobagrus) seenghala* (Sykes) and *Mystus (Osteobagrus) aor* (Hamilton) and certain other interesting fishing methods in River Narbada

BY

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(With three plates)

INTRODUCTION

While engaged in fishery survey of River Narbada, an indigenous fishing method, locally known as 'Chir', was observed to be prevalent in the vicinity of Hoshangabad. It is an ingenious and specialised fishing device, for catching two commercially important species of catfishes *Mystus (Osteobagrus) seenghala* (Sykes) and *Mystus (Osteobagrus) aor* (Hamilton), locally called 'Digar' or 'Seenghar' and 'Kohora' respectively. This fishing method reportedly in use in River Narbada from time immemorial is now prevalent in certain fishing villages along the entire course of the river, but its practice is restricted to a few fishermen families. Near Hoshangabad, only two families are skilled in catching 'Digar' and 'Kohora' by this fishing method.

As 'Chir' fishing has not been hitherto described from any part of India, the fishing implements and the method of this type of fishing are described in detail. Other fishing methods employing scare line are also described.

'CHIR' FISHING

(a) *Fishing gear*: The equipment and the accessories required for 'Chir' fishing are a scare line, three wooden poles, two small boats and a fishing hook.

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(i) *Scare line* (Local name: 'Dor') consists of about 500 yards of rope, generally made from Shunn-hemp (*Crotalaria juncea*) and sometimes from 'Kans' (*Saccharum spontaneum*); several bunches of long and narrow leaves of a grass (Local name: 'Orai'), each about 10 inches long; several small pieces of stone; and about four floats, generally of 'tumbe'.

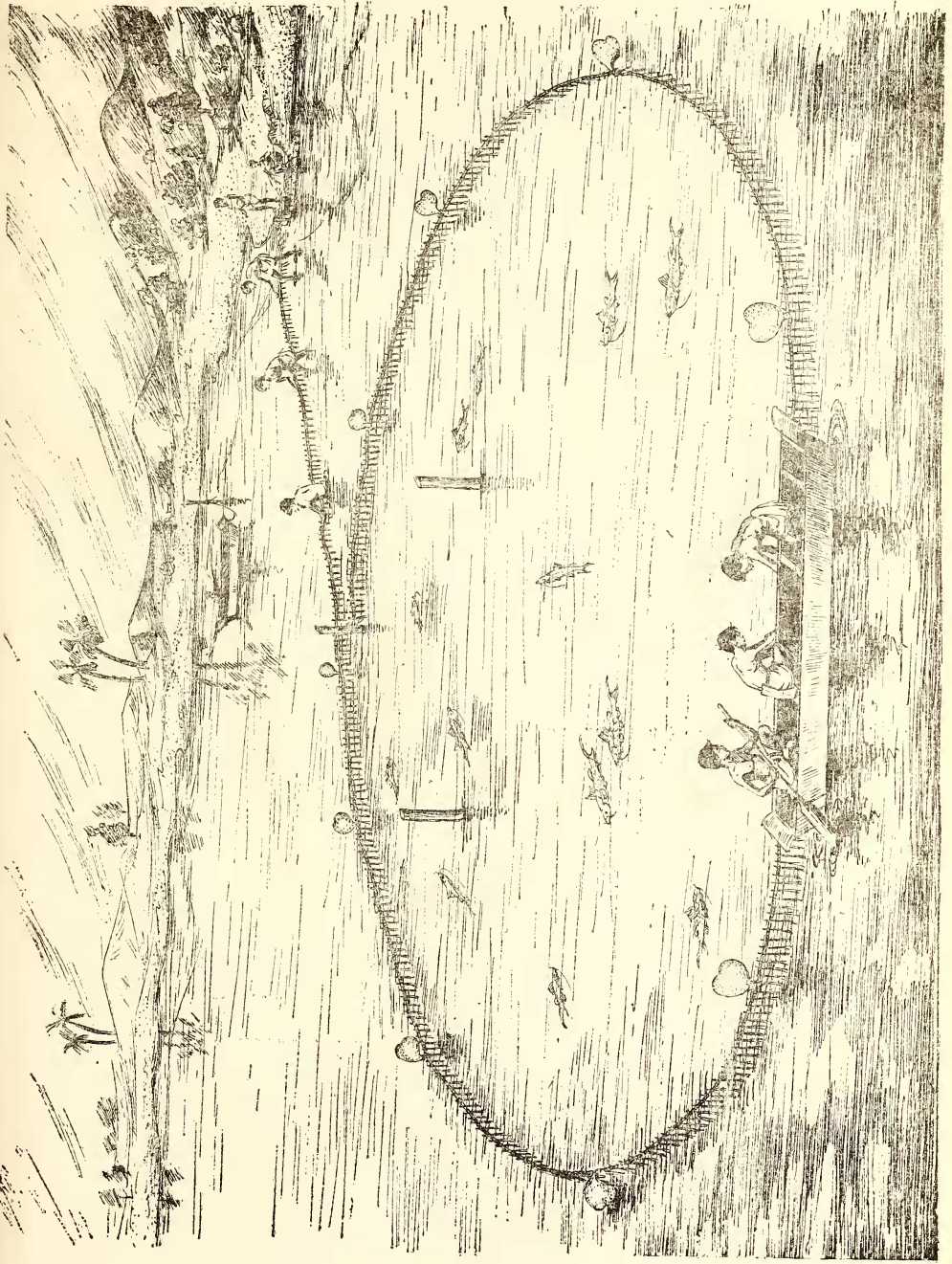
The bunches of 'Orai' are inserted in between the strands of the rope at regular intervals of 6 to 8 inches and small pieces of stone are tied close to the rope with ordinary thread (usually 'Sutli') at regular intervals of about 20 inches i.e. after every third bunch of 'Orai'. The four floats are tied to the rope at intervals of about 100 yards. This line is dragged through the water to scare the fish into the enclosure formed by it. During the course of dragging, the bunches of 'Orai' hanging from the rope form a flimsy wall through which 'Digar' and 'Kohora' do not escape but congregate in the middle of the enclosure. The small stones tied to the rope act as sinkers. The floats help to keep the scare line in position and from sinking to the bottom and also help in tracing the submerged scare line.

(ii) *Wooden poles* (Local name: 'Khootte'): Three straight poles generally of 'Sal' wood (*Shorea robusta*), each measuring 8 to 10 feet in length, are required for this type of fishing. They are fixed in the sandy river bed in the form of a triangle. The scare line finally rests against these poles, forming a triangular enclosure.

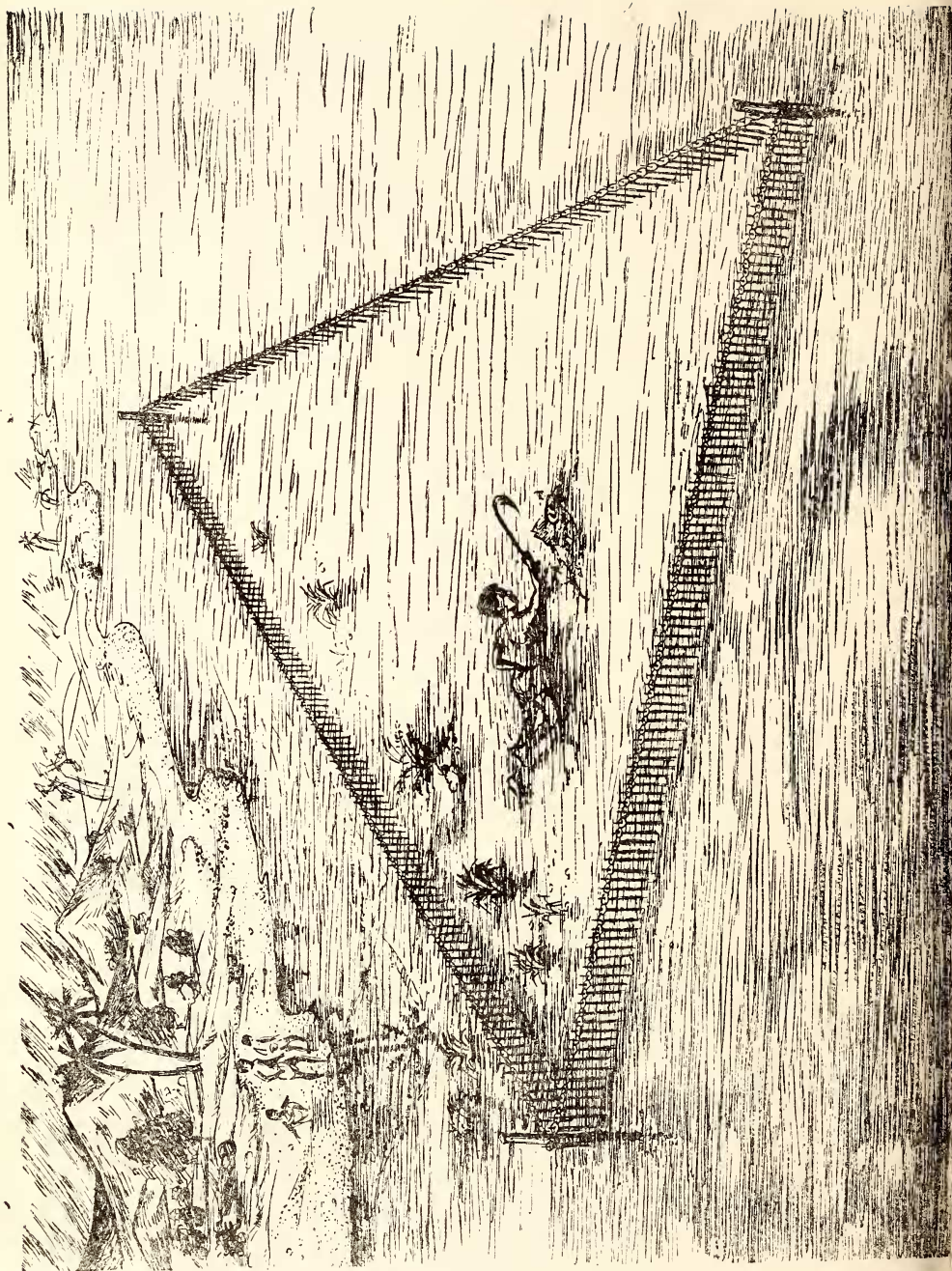
(iii) *Small boats* (Local name: 'Donga'): The small boats ordinarily used for other types of fishing in the river are also employed in 'Chir' fishing. They are small-sized, plank-built and with flat bottom, about 20 feet in length and about 3 feet in width. Two such boats are generally used, one for feeding the scare line into the water and encircling the fishing area and the other to prevent the scare line from entangling in submerged weeds, rocks or boulders, while it is being dropped in or dragged through the water.

(iv) *Fishing-hook* (Local name: 'Gaal'): The hook employed is similar in shape to an ordinary fishing hook, but is larger in size and has a long shaft suitable for a firm grip. It is made from a $\frac{1}{4}$ inch diameter iron rod. The shaft measures 16 to 20 inches in length and has an eyelet at one end and the barb at the other. A thin and short piece of rope is passed through the eyelet and tied in a closed loop. The hand is slipped through the loop before gripping the shaft of the hook, to ensure that it does not slip off at the time of fishing.

(b) *Number of fishermen required*: Usually six fishermen are required, but sometimes even four or five fishermen manage the whole fishing operation. They operate in two parties, each of two



Laying the 'scare' line for chir fishing



to three fishermen in one small boat. One boat feeds out the scare line and the other boat tends it. One fisherman of each party manipulates the boat, one feeds out the scare line and another, the skilled fisherman, hooks the fish but he also helps in feeding out the scare line if it becomes necessary. The two fishermen of the second boat tend the scare line as it is being dropped in water and dragged.

(c) *Fishing operation* (Plate I): After locating a suitable fishing area, the three wooden poles are fixed in the sandy river bed where the depth of water varies from 4 to 5 feet. The three poles are fixed in a triangle at a distance of 30 to 40 feet from each other. One end of the scare line is tied, about a foot below the water surface, to the pole near the river bank and rest of the scare line is loaded on the boat, which moves away from the river bank, dropping the scare line outside the two other poles and enclosing as much area as the length of the scare line permits. The free end of the scare line is then brought to the river bank and dragged very close to the pole to which the scare line is tied completing the enclosure. As the scare line is dragged and the enclosed area narrows, the frightened fish move and gradually congregate in the hind portion of the enclosure. One boat with three fishermen guided by the floats moves towards the line and ensures that the line is not entangled by submerged obstacles, till the line finally rests against the poles. The fisherman armed with the hook then gets inside the enclosure holding the fish and dives in search of them (Plate II). When a fish is located, he strikes with the hook keeping himself at arm's length and pulls the fish towards him carefully so that the fish does not injure him during the course of its struggle.

(d) *Time and season of fishing*: For successful fishing by 'Chir', good visibility inside the water is essential to enable the fisherman to locate the fish and hook it successfully. The fishing is, therefore, practised generally from mid-October to mid-June, when river water is clear, and vast stretches of the river become shallow and suitable for this type of fishing. 'Chir' fishing is done usually from 10.00 a.m. to 4.00 p.m. but the best time for fishing is from 11.00 a.m. to 2.00 p.m., when the sun is directly overhead and there is maximum visibility inside the water. Moreover, during midday the danger of fish being frightened by the shadow of the fisherman is lessened. While fishing before 11.00 a.m. and after 2.00 p.m., the fisherman ensures that his shadow does not fall on the fish at the time of hooking by approaching the fish from the west during morning hours and from the east in the afternoon.

(e) *Selective fishing*: The fishing area through which the scare line is dragged contains all types of fishes, but during the dragging of the scare line all other fishes escape through the flimsy 'Orai' barrier or jump over it. 'Digar' and 'Kohora' remain in the enclosure evidently because they are not capable of jumping over the scare line. These two species of catfishes also do not attempt to break through the barrier probably because the bunches of 'Orai' touching their body, gives the impression of an insuperable barrier and keep on retreating as the scare line approaches them. On some occasions, however, when the fisherman fails to hook one of the catfishes and it breaks through the scare line, the remaining fish in the enclosure follow.

(f) *Fishery and size composition*: The two species of catfish are also encountered in the catches by other gears, like cast net, gill net and long line, along with other species of fish. The general observations on the catches of 'Digar' and 'Kohora' from 'Chir' fishing and other gears have, however, indicated some disparity in the proportions of the two species and in their size compositions. In order to get an exact idea of the relative abundance of these two species of catfishes and their size compositions in the catches of 'Chir' fishing and by other gears, the relevant data were collected separately for different fishing operations from November 1963 to April 1964. The data thus collected have been compiled and presented in the Table.

TABLE
SIZE COMPOSITION OF 'DIGAR' AND 'KOHORA' IN 'CHIR' FISHING AND BY OTHER GEARS FOR THE PERIOD NOVEMBER 1963 TO APRIL 1964.

Size Range (mm.)	'Chir' fishing		Other gears (cast net, gill net and long line)			
	'Digar' No. (%)	'Kohora' No. (%)	'Digar' No. (%)	'Kohora' No. (%)	'Digar' No. (%)	'Kohora' No. (%)
101- 200	—	—	—	—	—	16 (4.6)
201- 300	16 (6.4)	—	12 (5.4)	103 (29.3)	27 (12.1)	67 (19.1)
301- 400	9 (3.6)	2 (12.5)	32 (14.3)	76 (21.7)	35 (15.6)	38 (10.8)
401- 500	45 (18.1)	4 (25.0)	52 (23.2)	21 (6.0)	39 (17.4)	25 (7.1)
501- 600	62 (24.9)	6 (37.5)	6 (2.7)	3 (0.8)	—	—
601- 700	51 (20.5)	2 (12.5)	6 (2.7)	2 (0.6)	—	—
701- 800	31 (12.5)	2 (12.5)	—	—	—	—
801- 900	16 (6.4)	—	—	—	—	—
901-1000	7 (2.8)	—	—	—	—	—
1001-1100	11 (4.4)	—	—	—	—	—
1101-1200	1 (0.4)	—	—	—	—	—
Total	249	16	224	351		

The Table shows that 'Digar' outnumbers 'Kohora' in the catches of 'Chir' fishing and the reverse is the case with the pooled catches with other gears. The haulwise observations on the catches of 'Chir' fishing have revealed that while most of the hauls yield only 'Digar', a few specimens of 'Kohora' are also encountered in some hauls and when the pooled catches from all hauls of 'Chir' fishing during a period are considered, the two species are fished in the ratio of about 15:1 indicating that 'Chir' fishing is especially effective for catching 'Digar', whereas 'Kohora' is captured only casually by this method.

The length frequency data of the two species of catfishes taken by other gears indicate (Table) that the maximum size of 'Digar' (size range: 1101-1200 mm.) is larger than that of 'Kohora' (size range: 901-1000 mm.) in the Narbada, at least near Hoshangabad. Comparison of various size groups of 'Digar' in the catches of 'Chir' and those of the other gears shows that 'Chir' fishing does not exhibit any size selectivity and the various sizes of this species captured by 'Chir' are almost in the same proportion as in the catches of other gears. The sizes of 'Kohora' which are encountered in smaller numbers in the catches of 'Chir' represent the dominant size groups of the catches of the other gears.

(g) *Primitive origin*: 'Chir' fishing involving the use of scare line and hook is undoubtedly of primitive origin, based on the knowledge of the habits and the behaviour of fishes in nature and makes use of the timid nature and sluggish habits of 'Digar' and 'Kohora' catfishes for catching them. The professional skill required in 'Chir' fishing has been passed on from generation to generation but fishing by this method, like any other primitive fishing method, has dwindled considerably with passage of time and is not now practised on a large scale.

(h) *Superstitions associated with 'Chir' fishing*: Certain superstitions are reported to be associated with 'Chir' fishing:

(i) Religious rites are performed by the fishermen before starting 'Chir' fishing in each season commencing from mid-October. All the fishing implements particularly the fishing-hook and the scare line are worshipped by reciting 'mantras'. A chicken is also sacrificed in front of the fishing implements. The sacrificed chicken is eaten by the fishermen and their friends as 'Prasadam'. It is a deep rooted but unfounded belief among the fishermen that by worshipping the scare line, 'Digar' and 'Kohora' do not break through it.

(ii) Before disposing of fish caught by 'Chir' fishing, their adipose fin is severed and viscera are removed. Under no circumstances, are they taken from the fishing ground without the observance of these